GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA

UNSTARRED QUESTION NO:664
ANSWERED ON:02.12.2015
Tritium Leakage
Karadi Shri Sanganna Amarappa

Will the Minister of ATOMIC ENERGY be pleased to state:

(a) whether the Government has received any report regarding Tritium leakage from nuclear etablishments during the last two years and the current year;

(b) if so, the details thereof;

(c) the permissible limit in percentage of radiation leakage and the measures taken to control the leakage;

(d) the number of labourers/workers affected by radiation leakage in all nuclearpower plants;

(e) whether the nuclear plants in India are taking steps to prevent tritium leakage;and

(f) if so, the details thereof?

Answer

THE MINISTER OF STATE FOR PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND PRIME MINISTER'S OFFICE (Dr. JITENDRA SINGH) :

(a) No Sir.

(b) Does not arise.

(c)The annual limit of radiation dose as prescribed by Atomic Energy Regulatory Board(AERB) to the public around the Indian Nuclear Power Plant due to its operation is 1000 micro Sievert. As against this, the radiation dose around the Indian Nuclear Power Plants during the last two years has been significantly low in the range of 0.44 - 41 micro Sievert (0.04-4.1% of the stipulated dose limit).Indian Nuclear Power Plants employ multiple physical barriers to prevent release of radioactivity to the environment. Features like double containment, welded joints, detection and correction at the incipient stage, use of leak tight fittings, vapour recovery systems, etc are also employed to prevent escape of radioactivity. Regular surveillance of all the systems and equipment is carried out. Further to this, the operation of the reactors is carried out as per the Technical Specifications, approved and proven procedures.

(d) There are no cases of contract workers/labourers receiving radiation exposure beyond stipulated limits of Atomic Energy Regulatory Board (AERB) during the last two years and the current year.

(e)&(f) Yes, Sir. Several provisions are in place to effectively address the in-plant leakages viz. redundant and diversified leak detection mechanisms, multi-layered containment, control of leak at source, liquid & vapor recovery systems, etc. Further, early detection of tritium leakages and heavy water (D2O) vapour recovery systems are provided to prevent tritium releases to the environment. Low level liquid waste generated from nuclear power plants are discharged to the environment after suitable treatment comprising chemical treatment, evaporation, ion exchange and filtration, ensuring compliance with the regulatory limits.

*****